

Appl. No. 10/689,380
Amdt. dated 15 June 2006
Reply to Office action of 23 March 2006

Amendments to the Drawings:

Submitted herewith are six sheets of formal drawings in place of the six sheets of informal drawings filed with the application. The formal drawings address the informalities noted by the examiner.

FIG. 1 has been amended to add the legend "Prior Art."

Also submitted is a seventh sheet of formal drawings adding a new figure, FIG. 15, to address the examiner's concern that certain elements of the claims were not shown in the figures.

Attachments: Replacement sheets 1/7 – 7/7

Annotated sheet 1 showing changes.

REMARKS/ARGUMENTS

In response to paragraph 4 of the Office action, the title has been amended to recite “Method for Manipulating Data in a Group of Processing Elements According to Locally Maintained Counts.” If the examiner remains of the opinion that the title is not descriptive, the examiner is invited to suggest an appropriate title.

In response to paragraph 5 of the Office action, formal drawings are submitted herewith. More particularly, six (6) sheets of formal drawings, labeled 1/7-6/7 are submitted herewith in place of the informal drawings filed with the application. It is respectfully submitted that the formal drawings address the informalities identified by the examiner.

In response to paragraph 6 of the Office action, FIG. 1 of the formal drawings has been labeled “prior art.” A copy of sheet 1 of the drawings as originally filed is also enclosed and annotated in red to show the change.

With respect to paragraph 7 of the Office action, a new drawing, FIG. 15 carried by sheet 7/7, is submitted herewith. New FIG. 15 is based primarily on paragraphs 63 and 66, and those paragraphs have been amended to add reference numbers referring to FIG. 15.

More particularly, box 120 in FIG. 15 recites “set local counter via loading or calculating.” Support may be found in paragraph 66. The “current count, target count comparisons, incrementing/decrementing the current count” may be found in boxes 130 and 135. Support is found in paragraph 66. Shifting the data in the positive and negative “z” direction and shifting data diagonally is set forth in box 110 in FIG. 15. Support may be found for shifting in the plus or minus “z” direction and/or diagonally in paragraphs 69 and 11, respectively.

In view of the foregoing, it is believed that all of the objections to the figures have now been complied with.

In response to paragraph 8 of the Office action, claim 9 has been amended to insert “one of” after “additionally comprising” as suggested by the examiner.

In response to paragraph 10 of the Office action, claim 13 has been amended to limit claim 13 to only the circumstance in which the initial count is being decremented.

In response to paragraph 11 of the Office action, claim 26 has been amended as suggested by the examiner.

Applicant's attorney wishes to thank the examiner for the close reading which the examiner has given the claims and for identifying the informalities as set forth in the Office action.

In paragraph 13 of the Office action, claims 1-2, 5-11, 15-16, and 19-26 stand rejected under 35 USC § 102(b) as being anticipated by Taylor (U.S. Patent No. 4,992,933). It is respectfully submitted that the examiner has misconstrued the teachings of Taylor and reads too much into Taylor.

As set forth in paragraph 14 of the Office action, "the examiner asserts that the array controller 14 constitutes a processing element, as it controls processing in the array." It is respectfully submitted that the examiner is not free to re-label the components of Taylor. Taylor discloses an array 12 of processing elements $T(ij)$. The array controller 14 is a separate element, distinct from the array of processing elements. Accordingly, Taylor was well aware of the difference between a processing element and an array controller. Thus, the examiner is not free to disregard the teachings of Taylor, which clearly teaches that 14 is an array controller and not a processing element. For that reason, the rejection under § 102(b) should be withdrawn.

However, even considering the examiner's erroneous starting point, i.e., that the array controller 14 constitutes a processing element, the array controller 14 does not meet the limitations recited in independent claims 1, 5, 8, 16, 20, 23, and 26. Referring to claim 1, certain of the processing elements maintain a count, with each count being responsive to a processing element's location. Even if the array is maintaining a count, it maintains a single count for every element in the array. For example, as discussed in the example in column 9, lines 31-49 "exactly M steps along the path leads to the correct processing element for the mapping." The "common factor for each of the loops is that a bit which is shifted 33 times along the loop in which it is located will end up in the corresponding position in the adjacent quadrant. In other words, in 33 steps, the whole array is rotated by 90 degrees." Thus, the array controller 14 only needs to maintain a count up to 33 for every element in the array of processing elements. No individual count is necessary for each processing element.

The citation by the examiner of line 18 in column 10 is not to the contrary. The equation $1+n/2$ does not refer to shift instructions, but rather to cycles for the algorithm to implement an x-axis reflect on an n-by-n array. Thus, even if the examiner's position were correct, and the

array 14 could be considered to be a processing element, the array 14 does not maintain a count for at least certain of the processing elements, with each count being responsive to that processing element's location. Claim 1 has been amended to make it clear that the storing is taking place in each processing element in response to that processing element's count. That again serves to distinguish the subject matter of independent claims 1, 5, 8, 16, 20, 23, and 26 from Taylor. For the foregoing reasons, it is respectfully requested that the rejection of claims 1-2, 5-11, 15-16, and 19-26 under 35 USC § 102(b) as being anticipated by Taylor be withdrawn.

In paragraph 34 of the Office action, dependent claims 3, 4, 12-14, and 17-18 stand rejected under 35 USC § 103(a) as being unpatentable over Taylor. It is respectfully submitted that each of these dependent claims depends from an independent claim which is now in condition for allowance. Accordingly, at this time, applicant does not submit any amendments or remarks in support of the patentability of the aforementioned dependent claims. Applicant reserves the right to submit such arguments and amendments in the future should that become necessary.

Applicant has made a diligent effort to place the instant application in condition for allowance. Accordingly, a notice of allowance for claims 1-26 is respectfully requested. If the examiner is of the opinion that the instant application is in condition for disposition other than through allowance, the examiner is respectfully requested to contact applicant's attorney at the telephone number listed below.

Respectfully submitted,



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FIG. 1

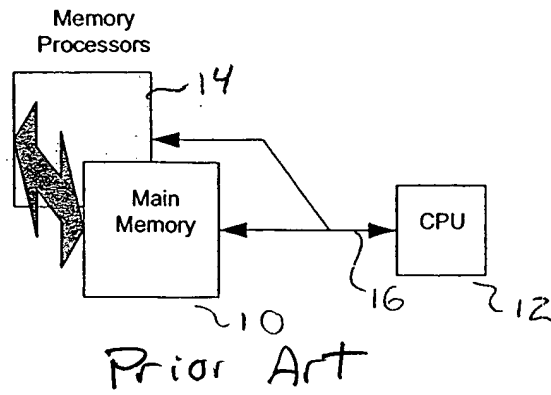


FIG. 2

